

Support to
De-bushing
Project



Financing Bush Control

An overview of current and proposed
financing programmes for bush harvesting
and value addition



Implemented by

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Introducing the **Support to De-Bushing** Project

Namibia is affected by bush encroachment on a massive scale. The phenomenon currently affects some 26 to 30 million hectares of farmland in 9 of the country's 14 regions. That amounts to roughly 30 per cent of Namibia's land area. Bush encroachment has lowered the country's rangeland production capacity by up to two thirds. It has further resulted in reduced biodiversity and limits the recharge of groundwater.

Despite the negative impacts, **the encroacher bush is a huge biomass resource**, estimated at about 200 to 300 million tonnes. Measures used to combat bush encroachment create positive opportunities for the Namibian economy, such as the use of the resource for electricity generation and value chain development in other sectors. De-bushing therefore offers the potential to increase agricultural productivity, economic growth, employment and energy security; without competing with food production.

In line with the Fourth National Development Plan (NDP4) and the National Rangeland Management Policy and Strategy of 2012, **the Support to De-bushing Project** aims to strengthen the restoration of productive rangeland in Namibia. It identifies value chain opportunities to trigger large-scale de-bushing activities. Its focus is closely aligned to the National Industrial Policy of 2012 and the Growth at Home Strategy, which promote domestic value addition for local resources. The project will foster institutional development in the biomass sector and provide support to improve the legal and regulatory framework for large-scale bush control.

The Support to De-bushing Project runs from 2014 until 2017 and is a bilateral cooperation between the **Namibian Ministry of Agriculture, Water and Forestry (MAWF)** and the **German Federal Ministry for Economic Cooperation and Development (BMZ)**. It is implemented by the **Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH**.



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WHAT IS THIS BROCHURE ABOUT?

This brochure presents an **assessment of current incentives, grants and financing products** for de-bushing activities in Namibia. Through a supply and demand analysis, it **determines their adequacy** and **proposes feasible adjustments** to support the establishment of a sustainable encroacher bush based industry in Namibia.

It is based on the study "Assessment of Existing Incentive/Grant Schemes and Financing Products Relevant for Bush Harvesting and Value Addition that would contribute to the Establishment of an Industrial-Scale Biomass Industry in Namibia" (2015) by Business Financial Solutions (BFS), Windhoek, Namibia.



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A Focus on Finance

In Namibia, there are several relevant financing products for the de-bushing industry. Research has shown that both suppliers and users of these products indicate a need for enhancement to explore their potential. The financial industry has shown readiness to improve their current offerings, specifically with regard to pricing and collateral required.

Namibia has sufficient bush resource that can be used as input for a number of products for both local and international markets. There is considerable up-scale potential but value addition is constrained by market access limitations (critical mass of off-takers) and the fragmentation of the industry. Further, access to finance and advisory services need to be improved.

Gains from de-bushing are of a cross cutting nature and can be both public and private.

They include:

- Rangeland improvement: **± NAD 1.6 billion**
- Development of small and medium enterprises (SMEs), especially in rural areas
- Job creation
- Forex earnings through exports
- Import substitution
- Research and development

this record is only for the meat production sector

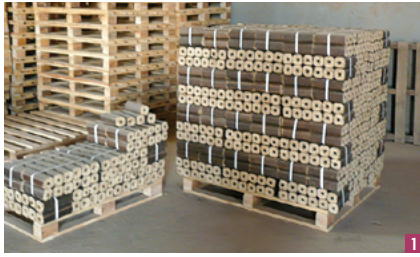
Stakeholders in the Industry

The commercialisation of encroacher bush products is a relatively new industry in Namibia, with most enterprises established after the year 2000. The majority are in existence for less than 5 years. Operators currently involved in harvesting are mainly farmers who clear the bush for improved grazing. A few entrepreneurs are

engaged in value-addition and produce products such as charcoal, briquettes, fencing poles and droppers as well as wood chips a/o pellets for industrial use and power generation.

Small non-farmer enterprises practice more than one activity along the value chain, ranging from clearing and harvesting to semi-processing and even manufacturing and packaging. Most operators are either micro or small with a handful of medium enterprises. They strive to create supportive cash flows from complementary activities. If enabled to scale-up, these entrepreneurs could focus their energies on a specific value chain activity.

Farmers' primary objective for de-bushing is to improve rangeland in order to restore livestock carrying capacity of their land. The majority of farmers prefer chemical and mechanical methods to control the bush. However, financing products for chemical methods are the most expensive in the market. Another challenge in this regard is the repayment period of the investment in debushing which takes up to 16 years if no value is added to the harvested bush. Furthermore, additional investment (e.g. purchase of additional livestock) is required to optimise improved rangeland.



1 & 2 Bush briquettes packaging at CCF

3 Interaction between the CCF Bush block factory Manager, Mr. Bruce Brewer & Director of Forestry, Mr. Joseph Hailwa.

This lengthens the period for positive return on investment.

The industry can be categorised in four stakeholder groups:

- **Financiers and incentives/grant providers:** commercial banks, development finance institutions, government departments and agencies and development institutions
- **Primary producers:** farmers, cooperatives, other entrepreneurs
- **Secondary producers:** value adding entrepreneurs/manufacturers, entrepreneurs in supportive industries (such as transporters and equipment suppliers)
- **Enablers:** government ministries and agencies, associations, professional service providers

During consultations, stakeholders stressed a public sector driven national strategy is imperative given the extent of public gains that can be made. It is considered necessary to

create framework conditions that are conducive for the private sector to participate meaningfully.

In regards to process related issues, the following were found to be critical:

- The **short duration of harvesting licenses** (for commercial areas 3 months, communal areas 1 week) was found to be a risk to the continuity of biomass supply. Stakeholders call for longer term licences with in-built supportive and monitoring mechanisms.
- **Safety and security standards** (e.g. labour conditions) were found to be lacking particularly in the charcoal industry.

Required changes to financial product features and process related dynamics were presented in detail. With financial service providers agreeing that incentives to bring down the cost of financing will result in greater product uptake. The discussions confirmed stakeholder's readiness to embrace a collaborative approach to harness the potential of encroacher bush.

Available Financing Products for De-Bushing

A number of financial institutions have developed financial products* for bush control and biomass utilisation as summarised in the table on page 5.

First National
Bank and
Standard
Bank

→ Four institutions (two commercial banks and two development finance institutions) currently offer specific financial products for de-bushing activities. Some have limits on the values of their products. All four institutions provide loan financing while EIF provides a grant option that has a minimum value of NAD 150,000 and a maximum value of NAD 500,000.

Agricultural
Bank of
Namibia and
Development
Bank of
Namibia

*Status
as of
September
2016

→ Standard products such as Commercial Loans (CL) or Article Finance (AF) were found to be fairly applicable to the needs of the industry. The challenges seem to be the cost and associated security requirements.

→ Financing products and incentive schemes are complementary rather than alternatives. An incentive scheme is a program used to promote or encourage specific actions or behaviour by a specific group of people during a defined period of time. There are currently no incentive programs for the biomass industry in Namibia.

→ Relevant grant products are provided by Environment Investment Fund (EIF) and the Small Grants Programme of the Global Environment Facility (GEF SGP). Both the EIF and SGP are hosted by the Ministry of Environment and Tourism.

Manual bush harvesting
and processing using a chipper





LIST OF FINANCING PRODUCTS RELEVANT FOR BUSH CONTROL AND BIOMASS UTILISATION

INSTITUTION	TARGET CLIENTS	PRODUCT TYPE	VALUES		INTEREST/ FINANCING TERMS	FINANCING PERIOD	SECURITY REQUIREMENTS	GRACE PERIOD APPLICABLE
			MIN (N\$)	MAX (N\$)				
Agribank	Commercial farmers and enterprises (primary production)	Loan	None	None	8%	15 Years	Mortgage/bond	None
	Communal farmers and enterprises (primary production)	Loan	None	None	7%	15 Years	Mortgage/bond	None
	Enterprises adding value to the biomass (commercial)	Loan	None	None	8%	10 Years	Bond	None
	Enterprises adding value to the biomass (communal)	Loan	None	None	7%	10 Years	Bond	None
Development Bank of Namibia	Farmers and enterprises at all levels of production	Loan	150,000	None, requires a turnover of 10 mil per year	Prime	10 Years (Max)	30 %	18 Months (max)
First National Bank	Farmers (primary production only)	Loan	None	None	Depends on client	10 Years	Bond on the farm	3 Years
Standard Bank	Farmers and SMEs (primary production excluding aerial spraying)	Loan	50,000	None	Linked to prime lending rate	5 Years (Max)	Subject to normal criteria and repayment ability	Subject to normal criteria and repayment ability
	Farmers (aerial spraying)	Loan	50,000	None	Linked to prime lending rate	5 Years (Max)	Subject to normal criteria and repayment ability	Subject to normal criteria and repayment ability
	Enterprises adding value to the biomass	Loan	50,000	None	Linked to prime lending rate	5 Years (Max)	Subject to normal criteria and repayment ability	Subject to normal criteria and repayment ability
Environmental Investment Fund of Namibia	Farmers, enterprises and communities at all levels of production	Loan	250,000	4 Mil	Prime -3%	10 Years (Max)	Depend on client risk	12 Months (Max)
	Farmers, enterprises and communities at all levels of production	Grant	150,000	500,000	Zero	N/A	N/A	N/A

Loan Funding

All surveyed operators indicated that they have growth plans and will need funding. Currently, business models are vertically integrated to avoid bottlenecks and use revenues from profitable activities to finance less profitable ones. This is partly the reason why loan sizes are generally large.

The average loan required is estimated to be around NAD 15 million with the minimum being NAD 1 million and the maximum NAD 30 million. Over 90 per cent of these loans are required to purchase equipment with less than 10 per cent going to skills development and contingencies. The average loan size in the industry is particularly important because it should, ideally, inform the size of financing products on the market.

Agribank

Agribank provides financing products to all value chain actors but the uptake is largely for chemical and labour based harvesting activities. The financing products do not have maximum or minimum values. Applications are evaluated on individual merit. The interest rate on the products is 8 per cent for commercial clients, 7% for communal clients and 8% for resettlement clients. The financial products are offered over a 15 year period and there is no grace period on most products. For farmers and SMEs, Agribank uses bonds or mortgages largely on farms to secure the loans.

An exception is made for businesses that require investment in value adding, such as

depots, biomass boilers and other production plants. Here, Agribank extends infrastructure improvement loans which are provided for a period of 10 years at an interest rate of 8 per cent for those operating in commercial areas and 7 per cent for those in communal areas. Improvement loans are repayable over a period ranging between 1 and 10 years. For infrastructure and implementation loans, the repayable period varies between 5 and 10 years. For both loans, the bank accepts conventional collateral for security.

Development Bank of Namibia

DBN provides financial products that could be tailored for de-bushing activities, in particular if the activities are related to value addition. The minimum loan amount offered can be as low as NAD 150,000 but the project being financed must have a turnover value of over NAD 10 million per year. Financing is offered at the DBN base rate that is linked to the prime rate of Namibia and the duration of the loan could be as long as 10 years. The DBN does offer promoters a grace period depending on the nature of the project, which could be as long as 18 months and does require a minimum of 30 per cent security.



Bush based animal feed production in Namibia, using a combined chipper and feed mixer

Environment Investment Fund

The EIF supports individuals, projects and communities that pursue the sustainable use of natural resources. The EIF was officially launched in 2012 and is currently funded by government allocation with the mandate to tap on local conservation fees and environmental levies.

EIF provides two different types of financing options i.e. loan and grant funding. The loan is available to all Namibian entities involved in primary or secondary production through environmental and sustainable development projects with a minimum value of NAD 250,000 and a maximum value of NAD 4 million. The loan is extended for a period of up to 10 years, at an interest rate of prime less 3 per cent and has a grace period of up to 1 year. The security of these loans is determined on an individual

basis and includes cession of equipment. More information on the grant is found in the next section.

First National Bank

FNB has a de-bushing specific product which mainly focuses on farmers conducting aerial and manual spraying of arboricide. The product is particularly aimed at supporting farmers to clear or thin the bush on their farms to increase their livestock carrying capacity. The product does not have a minimum or maximum value and is extended over a period of 10 years. The interest rate depends on the client risk profile and there is a capital repayment grace period of 3 years during which the client only services the interest. Subsequently, capital and interest become payable from year 4 onwards. FNB uses the bond on the farm as security for the loan.



Processed encroacher bush material



Logistics of large scale bush utilisation project

Standard Bank

Standard bank provides financing for de-bushing purpose to farmers and/or farming businesses within the primary and secondary value chain, with exception of community organisations. Each application, however being treated on its own merits, remain subject to normal credit criteria, repayment ability and/or sufficient security offered. The facility has a minimum amount of N\$50,000 but does not have a maximum amount.

The loan is paid off over a period of five years (or less as the client so wish). The loan is link electronically to client business current account from which monthly interest repayment would be debited/obtain from. The principal amount can be paid off in monthly, bi-monthly, quarterly, bi-annually or annually instalment over the loan period. Client can agree on to a repayment plan that best suits their business and cashflow. Interest is linked to prime lending rate.

The Namibia Procurement Fund

The "Nampro" Fund is a bridging finance vehicle that finances supply contracts awarded to SMEs undertaking large value chains. The fund does not have a de-bushing specific financing product however its products are applicable to finance harvesting plants and provide working capital. The fund provides a minimum of NAD 100 000 and a maximum of NAD 50 million.



Grant funding

Grants are non-repayable funds disbursed by a grant maker, often a government department, fund, foundation, trust or corporation. Most grants are made to fund a specific project and require some level of compliance and reporting.

The results show that there is limited knowledge of grant options among industry operators. Only 33 per cent of the respondents mentioned that they know of an incentive in the industry which is provided through donor support and only 22 per cent have benefited from it. From the operators' perspectives, the main available financing option for their industry is loans.

Environment Investment Fund

The grant option provided by EIF is available to all Namibian projects that are innovative and sustainable with a non-discriminatory target client approach (farmers, enterprises and communities are all eligible). The grant has a minimum value of NAD 150,000 and a maximum of NAD 500,000.

Ministry of Industrialisation, Trade & SME Development Aid Scheme

MITSMED provides assistance in the form of equipment and other technologies for SMEs to effectively run their business and subsequently create employment. Recently, the MITSMED also develops investment opportunities for various industry sectors including energy.

National Commission on Research, Science and Technology

Having recognised the importance of research, science and technology as the engine of economic growth and development, government enacted the Research, Science and Technology Act 2004. The Commission presently supports research initiatives through the National Research, Science & Technology Fund. The projects are funded through calls for proposals and selected on a competitive basis. The Commission has expressed interest to support de-bushing initiatives as one of their priority research areas.

Only a few governmental institutions offer grant funding for bush control and biomass utilisation in Namibia



Challenges

Industry operators have outlined a number of challenges they are facing in accessing finance or incentives in Namibia.

Application

The majority of the surveyed operators have applied for bank loans which they used to supplement their own resources to purchase equipment. While most loans were approved, operators reported that they had to try more than one bank. The application process for loans from development finance institutions is said to be particularly lengthy and complicated. As a result, operators apply for commercial loans at commercial terms just to avoid the complexities.

Design

- **Collateral:** Most industry players do not have the traditional fixed asset based collateral required by financial institutions. The use of farmland as security for harvesting activities impedes farmers' uptake of financial products due to the lag in achieving expected return on investment. Options to provide other means of security could incentivise farmers to take up financing products.
- **Insufficient Grace Period:** Non-farmer operators are negatively affected by an insufficient grace period. The time required for clearing, harvesting, manufacturing and packaging before they realise revenue can be lengthy, placing cash flow strains on entrepreneurs who are fully reliant on this venture. Financial institutions do not consider these dynamics when determining loan repayment terms.

- **Product promotion:** The financial products are not well promoted to industry operators. Most of them do not even know of any incentives or grants available.

Pricing

The interest rate on de-bushing specific financial products has been echoed as too high. Commercial banks charge an average minimum interest rate for their financial products for de-bushing activities of 10.75 per cent compared to the average rate of 9.27. Development finance institutions have an average minimum interest rate of 8.16 per cent with half of the products charged below 7.63 per cent.

Overall, the average interest rate financial institutions charge on loans for primary production is 9.46 per cent and for secondary production 9.07 per cent.



Case Study: Working for Water

According to vegetation experts, encroacher bush is particularly a problem in southern African countries such as South Africa, Lesotho, Botswana, Namibia and some parts of Zimbabwe. Like Namibia, none of the other countries has successfully managed encroacher bush although efforts for rangeland management are recorded.

"Working for Water" is one of the most cited best practice bush management programmes in Africa. The South African program was established just after 1995 to control invasive alien plants in a sustainable manner. According to South Africa's Department of Environmental Affairs, the country has 198 invader bush species which threaten its biodiversity, water security (as these plants use a lot of water) and land productivity. The program works on a tender system whereby unemployed people receive training in de-bushing activities and can thus tender to provide these services.



Demonstration of invasive special removal of the Working for Water (WfW) Programme in South Africa

The program started off as a fully interdepartmental government funded program using poverty relief funds as public works. Today, private land owners, especially farmers and plantation owners are paying up to 60 per cent of the total cost for invader plants clearing through the program. The forestry industry also supports the program with planning, mapping, vehicle donations, and training.

Secondary Industries: Value Adding

As part of the Working for Water program, a Secondary Industries Unit was established in the Department of Water Affairs and Forestry to promote value addition to the wood and biomass cleared. The initiative to support small enterprises is driven by the following objectives:

- Minimising the net cost of clearing
- Maximising economic impacts (jobs creation addressing the "poorest of the poor")
- Minimising potential negative environmental impacts such as fires by optimising the biomass

Private spin-off enterprises are being supported to manufacture several products such as fencing material, indoor and garden furniture, wooden educational toys, charcoal, firewood and wood chips amongst others. Since their establishment, the most critical challenge facing secondary industries has been finance.

Finance and Incentives

The Working for Water program is financed at two levels with funds from different sources administered by government through financial institutions. Government provides the biggest allocation to the program. Over the years, the budget for the Working for Water program increased from R 25 million in 1995/1996 to R 250 million in 1997/1998. At that stage, it was estimated that R 600 million per year will be needed over the next 20 years.

The savings from these investments, taking in consideration the costs if the invader bush had not been cleared, have been estimated at R 35.2 billion every year. Today, the Working for Water program is the largest program in the Department of Environmental Affairs.

First level funding and incentives: The clearing of invader bush on non-private land is fully funded by the government from the Poverty Relief Fund. The government also funds ancillary developmental activities in the program such as child care for the workers' children, HIV/Aids initiatives and reproductive health services. The

government further funds training and skills development for employees.

The funding for clearing on private land is financed by both government and land owners. The owner pays up to 60 per cent.

Second level funding and incentives: This funding supports secondary industries involved in value adding to the cleared bush. Even though secondary industries are primarily small, their viability is assessed on business principles. The financing is based on a revolving credit facility provided within the Department of Water Affairs and Forestry and administered by financial institutions. In addition to these financial products, other incentives provided include access to raw materials, mentoring services and business linkages with the wider forestry industry.

The Industrial Development Corporation of South Africa Limited (IDC) provides larger businesses with funding for fixed assets, working capital, start up projects, expansion capital and rehabilitation of existing businesses. Given that IDC is an industrial development agency whose mandate is based on socio-economic transformation, they participate in deals with greater risk profiles than banks generally do. IDC prices risk profile at a far lower rate than banks do because an assessment of development returns is part of their decision-making process.



Gap Analysis

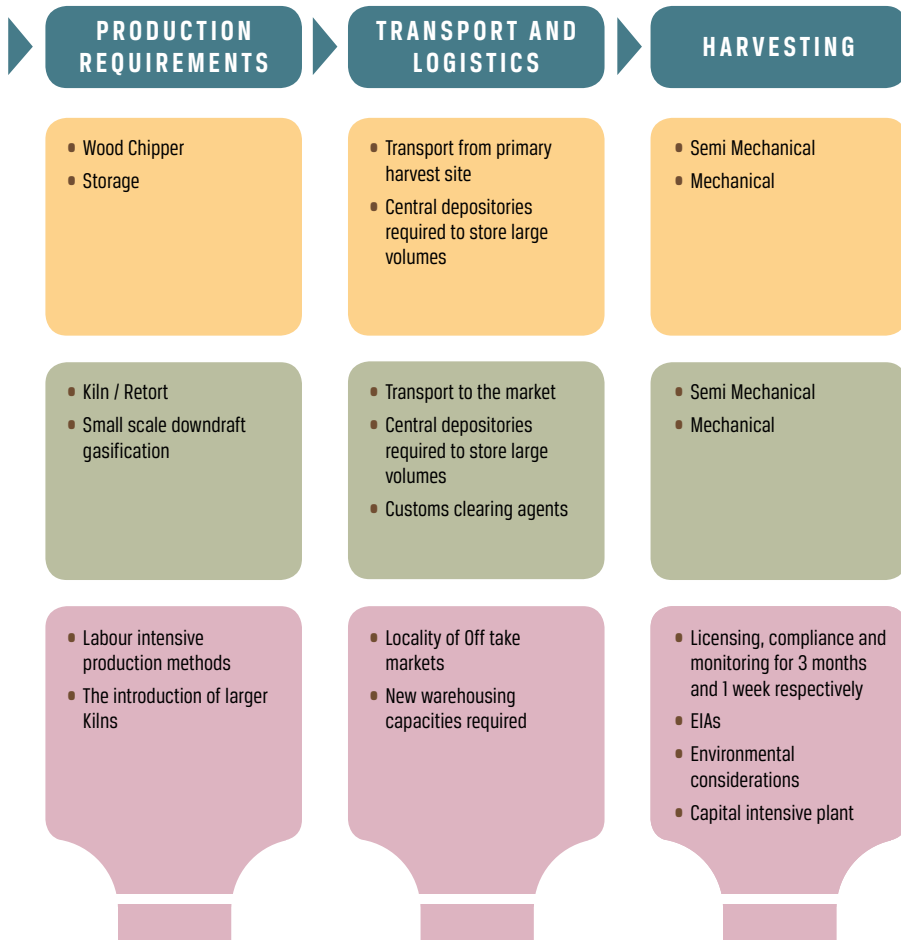
The results of the financing supply side analysis, demand side analysis, case study analysis, and discussions with stakeholders indicate that the de-bushing industry in Namibia is experiencing a multitude of issues, but also holds significant potential as summarised below.





BOTTLENECKS

Bottlenecks identified throughout the value chain are the regulatory environment, challenges associated with harvesting, logistics and storage requirements, production technology, new product development and market related issues.





Fully mechanised de-bushing operations for industrial boilers

Financial and Non-Financial Contribution by the Government

The crucial success factor of the Working for Water program in South Africa is that invader bush is nationally acknowledged by both the public and private sector as a problem. Government conducts public awareness campaigns on invader bush species and has put a framework in place for clearing of such plants. In Namibia, the policy framework for bush control is perceived as a challenge which according to the operators does not support the de-bushing industry fully. A clear policy environment would lead to better regulations as well as enable Namibia's products to obtain internationally recognised certification and access more markets.

A further success factor of the Working for Water program in South Africa has been the contribution of private land owners. If the industry was well regulated, private landowners in Namibia would also be encouraged to allow independent contractors to carry out de-bushing activities on their land.

GAP

There is limited policy guidance from government for the provision of sustainable funding and non-financial support.

Pricing of Financial Products

Lessons drawn from the case study on Working for Water in South Africa show that the revolving credit facility, along with the Strategic Business Unit for Forestry and Wood Products are exemplary interventions to foster industry development.

In Namibia, the industry does not have access to adequate subsidies and or incentives. In particular, pricing of financial products is observed as a challenge. The prevailing interest rates are too high.

GAP

Presently, the de-bushing industry in Namibia is largely reliant on conventional bank financing. There are limited subsidies and incentives to support the growth of the industry.



Illustration of bush based animal feed

Collateralisation

Financial institutions, particularly commercial banks are risk averse. Where there is limited information on the industry – as it is with the de-bushing industry in Namibia – financial institutions perceive the risk of financing such operations even higher. It is therefore no surprise that banks have resorted to traditional collateral of immovable assets (farms).

The literature on financing in Namibia has indicated that, due to historical reasons, most previously disadvantaged Namibians do not have collateral which they can use to meet their financing needs and as a result, the use of fixed assets is excluding the majority of the de-bushing industry operators from accessing loans.

GAP

To date, there is limited use of alternative collateral in the industry. Collateral, especially for rural individuals and farmers who are currently in possession of leaseholds is particularly limited.

Industry Segmentation

Some financial institutions have products only for bush clearing by farmers. Non-farmer operators, who are involved in the same de-bushing activities as farmers though with different objectives, do not have access to these products.

It is also important to note that the average sizes of loans required in the industry for value adding are relatively big. Even if the enterprise is classified as micro or small size, its capital requirement is most often significant. In other industries with more defined value chains, especially in the agricultural industry, financial institutions can consider value chain financing through large anchor buyers.

GAP

The common categorisation of stakeholders does not represent the actual activities of the industry. This leads to a mismatch between what financial institutions are offering and what operators need. Extending financing support to the value chain instead of funding specific groups has potential to eject exponential growth in the industry.

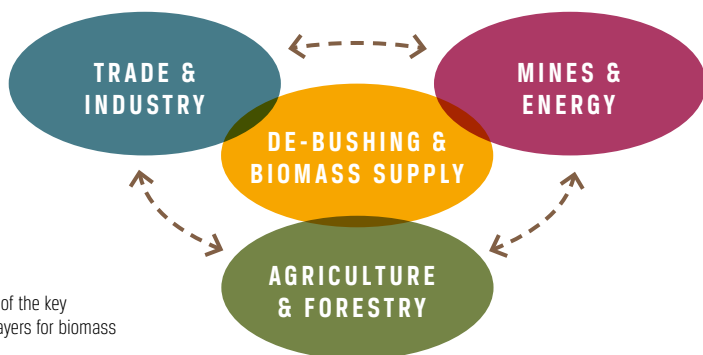


Illustration of the key sectoral players for biomass utilisation

Industry Profile Effects

Generally, forestry industries are financed from domestic funds, mainly through government allocations, complimented with international funds and banks. In Namibia, de-bushing activities have traditionally taken place in an informal setting and the national system has not been able to accurately capture its contribution to the national economy. Consequently, the industry has not received the same level of priority as crop and livestock production.

Until today, there is inadequate data that directly links the industry's contribution to the national economy without inferring it through its proxies to rangeland management. There are examples from other countries such as Kenya, Tanzania, Zambia, Sudan and Ethiopia who have formalised earnings from forest products such as charcoal, gum and carvings through regulations and have enabled the governments to collect revenues from these industries.

An exercise of this nature would require political will and collaboration among ministries. For instance, the Ministry of Agriculture, Water and Forestry will need to take the lead in the reform process and other Ministries such as the Ministry of Industrialisation, Trade & SME Development would come in with industrial promotion and possibly provide export subsidies. The Ministry of Finance has to enable the fiscal system to capture the industry's contribution to the national economy. Other ministries such as the Ministry of Land Reform and the Ministry of Environment and Tourism also need to be part of such reforms by virtue of their mandates, especially with regard to availing encroached land.

GAP

There is currently a lack of coordination among regulatory institutions for de-bushing.



Recommendations - Strategic Objectives

The following recommendations are based on five strategic objectives. These aim at addressing the financing gaps and barriers, identified in the previous section. The proposed interventions shall support encroacher bush value chains rather than stand-alone activities.

1 Improving access to finance

Capital intensive investments will be necessary. For this, a reliable cash flow is required to service interest rates as well as a strong balance sheet to provide security, which most industry operators currently lack.

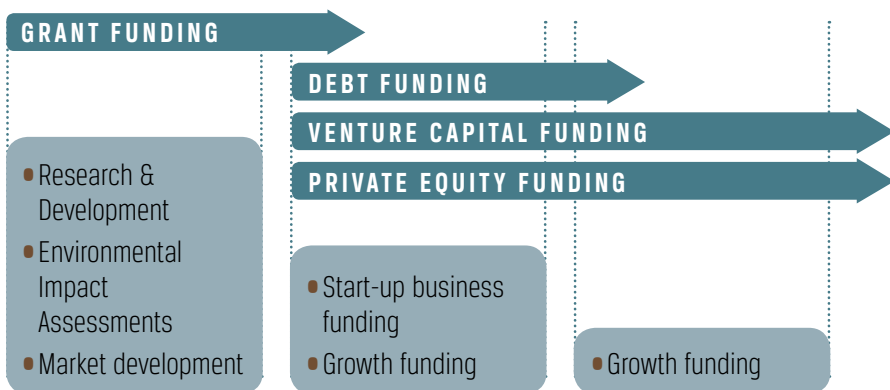
Interest Rate Subsidy Scheme

It is anticipated that enterprises with scalable operations will take up larger loans if they are awarded at lower interest rates. Therefore an interest rate subsidy is proposed.

An illustration of value chain support through a collaborative financing system for viable business concepts

Credit Guarantee Scheme

Having affordable loans does not solve the issue of collateral. Thus, entrepreneurs involved in the primary or secondary industries need to benefit from the national credit guarantee scheme currently in the making. The need to mitigate security requirements is eminent in the financial sector to curb entry barriers. This is particularly true for new market entrants and for high growth enterprises. This need is recognised in SME policy and a scheme is presently being developed. The scheme is likely to be seed funded by Participating Financial Institutions and development partners.



Concessional Loan Scheme with SUNREF

Engagement with international development finance institutions such as SUNREF can enable Namibian financial institutions to establish concessional loan arrangements that can be passed on to their clients.

Collaborative Financing and Support

The assessment highlighted a need for collaboration between commercial and non-commercial funding institutions. A referral and collaborative system is proposed that will facilitate grant funding for conceptual ideas and products that require further R & D or need to secure compliance with specific standards and regulations. These projects can subsequently be funded in a commercial manner. Such a collaborative approach would result in some products coming to market that otherwise might not.

2 Developing the market for biomass

There is a need for a focused market development strategy that will incentivise entrepreneurs to invest. Interventions should cover both technical and soft business matters. The measures should include direct market development, an increase in sizable off-take arrangements, training and support.

Some products presently in the market are short supplied and an immediate opportunity exists to upscale the market for biomass combustion and charcoal production. Biomass for industrial use and charcoal are both potential contributors to foreign currency earnings and the proposed upscaling of these products can make a significant contribution to Namibia's balance of trade account.

Biomass Combustion

The harvesting and chipping of biomass for combustion firing purposes can increase harvesting volumes exponentially. The market for such biomass is both local as well as international.

Local industrial consumption of biomass for heat and energy production can be increased; the Ohorongo Cement business model can be replicated. There are a number of large enterprises in the highly infested regions (Otjozondupa, Oshikoto, Kunene and Omaheke) that collectively consume about 42 Mw/h. If 20 per cent of that is generated using biomass, it will create opportunities with a market value of NAD 200 million.

The opportunity for decentralised power generation is not exhaustively explored. Such decentralised off-take opportunities are ideal to reduce the risk of monopolies and concentration of production capacities which in turn increases capital investment requirements.

Charcoal

The charcoal market is an international well established market. The hardness of Namibian charcoal makes it a sought after product and given the trade relations Namibia enjoys with import countries there is significant scope. Total exports can easily be increased 3 fold (to 400 kt/a) and earn EURO 48 Million in foreign earnings. However, this will require a better organised industry in terms of production capacity, labour and safety.



PRODUCT READINESS ANALYSIS

		Bottlenecks	End Users	Market acceptance
PRODUCTS PRESENTLY IN THE MARKET	Furniture	Only Prosopis wood suitable	Schools, Offices, Households	Demand is higher than supply
	Charcoal	Lack of control; partly illegal harvesting. Permit system not practical. Labour Intensive small production capacity	Power Generation, Construction Industry, Pharmaceutical Industry	Positive image of Namibia barbeque charcoal, world market undersupplied
	Wood Chips	Efficient plant, adequate markets, investment costs	Power Generation, Industrial Heating	Worldwide demand for wood chips with imports of 35.1 million tons of chips per annum
	Compressed Firewood	Sand content in the resources	Power Generation, Industrial Heating, Households	Existing market in Namibia/RSA demand exceeds current production capacities
	Firewood	No formal market	Households	Positive, stable domestic demand
	Poles	No formal value chain in place, the poles are seldomly really straight	Construction Industry	Domestic market - positive. Particularly at commercial farms and in communal areas
	Briquettes	Investment cost associated with the manufacturing	Households	SA & world market demand high
PRODUCTS WITH MARKET POTENTIAL	Animal Feed	Suitability of species, optimal production processes and feed composition isn't clarified yet	Farmers	Considerable domestic demand for complementary and emergency animal feed both in communal and commercial areas
	Wood-cement Bounded Board and Bricks	Material specifications of Namibia bush and related suitability not clarified yet	Construction Industry	Increasing demand in industrialised countries due to excellent properties
	Medium Density Fibre Boards (MDF)	To be subjected to extensive R & D	Furniture Manufacturing, Construction Industry	Possibly demand for indoor construction in Namibia and other African countries
	Wood-plastic Composite (WPC)	Market demand/opportunities in Southern Africa not yet verified	Furniture Manufacturing, Construction Industry, Farmers	Test results with mixed encroacher species promising
	Parquet	Wood of high density required and only larger woody parts of bushes suitable	Construction Industry	Small local market (high end)
	Shingles	To be subjected to extensive R & D	Construction Industry	High end European market
	Traditional Medicin	To be subjected to extensive R & D	Pharmaceutical Industry	Increasing import demand in Europe and North America

The challenges associated with increased production are:

- Low cost methods applied in both harvesting (manual) and production
- Access to affordable funding for more mechanised harvesting and production
- Compliance with labour, safety and security standards
- Capacity development in understanding market requirements by producers

Brokerage services such as the model applied by Jumbo Charcoal can be up-scaled to incorporate a larger number of producers. Namrock, a marketing association of lobster producers established a functional business model that can be replicated in other industries. Furthermore, there are few near-market ready charcoal related products that require R & D support.



Example of modern charcoal production technology

Business support services

Business development services should range from very basic support regarding income tax & VAT, to product standards and market requirements. Furthermore, general business support to improve business management capacities and improve entrepreneurs' understanding of processes and requirements will be needed.

Preferential Procurement

Public procurement is an effective tool to establish infant industry and serves as an incentive for private operators to invest in a particular area. For example, stationeries and other government consumables can be produced using invader bush as an input. Furniture manufacturing could also realise a sizable market though public procurement support. For instance, the Ministry of Education could be directed to procure school furniture exclusively from local suppliers with quota allocation to the use of invader bush. Currently, producers are constrained by the lack of large off-takers for their products and they do not get shelf space in larger furniture shops around the country.

3 Supporting Research and Development

Research and development should be streamlined with national priorities in government policies and programmes. National issues such as the housing problem can also inform R & D priorities.

Relevant policies and programmes include NDP 4, upcoming NDP5 policy formulation, Industrial Policy and Special Industrialisation Programme. The utilisation of invader bush is in line with the promotion of local value chains in the Growth at Home Strategy for industrial development. Specifically, the de-bushing value chain is part of the agricultural sector which is among the focus sectors targeted under this strategy. Exported products from encroacher bush will contribute to the country's goal of increasing the ratio of value added exports to 70 per cent by 2030.

Operators expressed concern regarding the lack of industry research to support product development. Potential products for pioneering can include animal feed, construction material, pellets and furniture.



Namibian cattle relishing bush based animal feed

Research & Development is recommended to cover:

- Harvesting methods
- Products
- Processes for the development and commercialising of new products and technologies

4 Increasing Access to the Resource

Key to the establishment of an encroacher bush industry is sustainable access to the resource. Security of supply is hampered by the short duration of harvesting permits, inadequate capacity to ensure compliance and challenges in regards to harvesting methods.

Access to Land

Private land owners are unlikely to contract into long-term (e.g. 15 years) harvesting arrangements whilst industry is still in its infancy stage and market dynamics are likely to change. State land (communal, resettled and research land) should provide a more sustainable supply of raw material as this represents 40 per cent of resource land. Combined with commercial farms, land available for harvesting will be more than 1.86 million hectares.

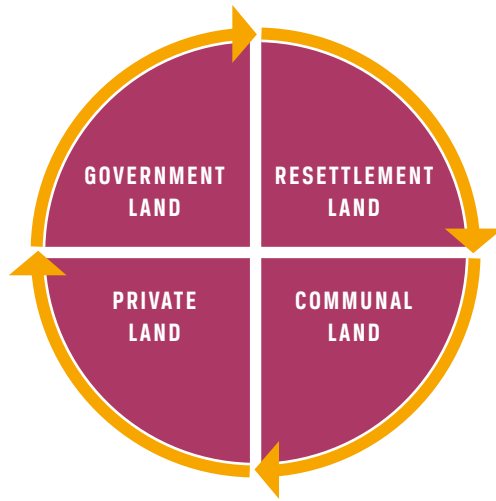
Licences should be issued for longer periods (3 years) to mitigate the risk of supply and improve business viability. Such licencing can be supported by monitoring intervals every 3 months executed by honorary foresters who are to verify compliance with license requirements.

Harvesting Methods

A mixed harvesting model of mechanical harvesting supported by manual application of arboricides is advised for industrial volume harvesting. Semi-mechanised harvesting supported by a manual application of arboricides is advised for smaller industries such as charcoal production.

Bush Bank

An organised supply arrangement is required to generate the necessary volumes. The Namibia Biomass Industry Group (N-BiG) a non-profit association of primary harvesters is putting mechanisms in place to ensure such security of supply. The Bush Bank will trade in the acquisition and sale of biomass to buyers.



5 Establishing Institutional Capacity

The need to establish centralised institutional arrangements building on a policy and program framework is critical to the establishment of an encroacher bush industry. This might require new capacities, the strengthening of existing capacities and co-ordinating the activities of established entities in a more organised manner.

Bush Utilisation Policy

The economic spin-offs post harvesting are largely falling outside the scope of the Ministry of Agriculture, Water and Forestry and as such require policy directives that recognise the cross sectoral value that the encroacher bush holds. It has been advocated that a bush utilisation policy is established and alignment with existing regulations and policies is achieved such as Forestry Act 12 of 2001, the Environmental Management Act 7 of 2007, Labour Act 11 of 2007 and Electricity Act 4 of 2007.

De-bushing National Agency

The creation of a National Agency to support the development of the industry is an important intervention that needs to be considered in the medium to long-term. The cross sectoral gains of a public, private and social nature warrant a coordinated support. Coordination would include the "De-Bushing Advisory Service's" role in capacitating private operators, N-BiG's role in ensuring security of supply, national Ministries, the EIF in pioneering the interest subsidy scheme and NCRST in pioneering R & D support.

Awareness

A focused information program would create awareness on a national level and establish citizen buy-in.

Opposite page:
Namibia is the fifth largest
charcoal exporter globally;
main target markets
include South Africa and
European countries.



Recommendations – Quick Wins

The following key recommendations are made with regard to key intervention areas.

Policy

An enabling regulatory framework is needed to drive the development of a bush utilisation industry. The Ministry for Industrialisation, Trade & SME Development should drive the development of such a bush use policy. To achieve efficient and sustainable access to the raw material, the Ministry for Agriculture, Water and Forestry should make amendments to increase the duration of harvesting licenses to 3 years and to introduce pre-conditions such as required training courses on bush types, labour matters etc.

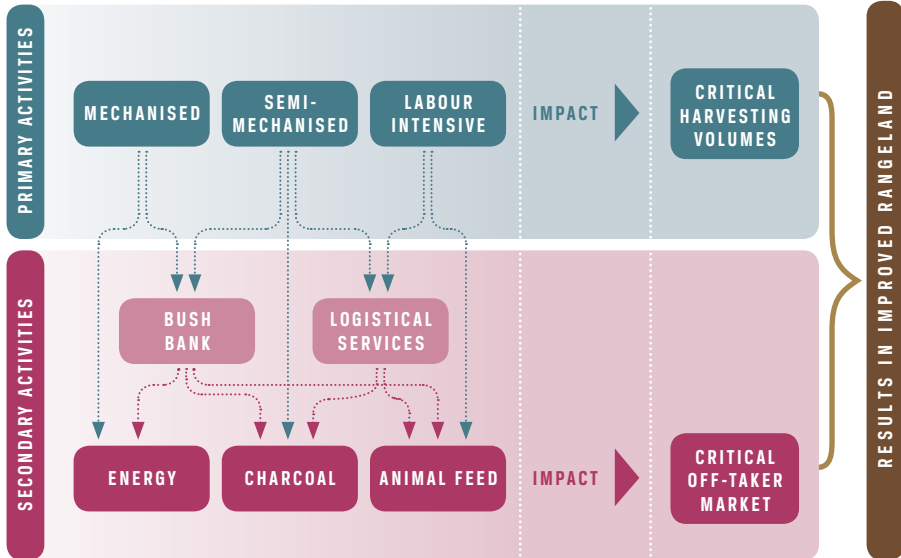
Grant Funding

In bush control, entrepreneurs often find themselves overwhelmed by the capital requirements associated with conducting research and product development. Grant funding could be used for pre-feasibility services and business support. This could entail scientific analysis to solve problems (e.g. the sand content in the bush), securing environmental clearance certificates, business guidance and mentoring on processes and standards (e.g. applying for an environmental impact assessment, safety and security standards for the charcoal industry etc.).

Interest Rate Subsidy

A subsidy can serve as an incentive to utilise debt funding. It is proposed that a 5 per cent subsidy is applied to all loans granted in support of enterprises in the encroacher bush based value chains. This should be applicable to both primary and secondary enterprises. All finance needs should be considered except loans for aerial spraying, a method considered environmentally undesirable.

An initial fund valued at around NAD 101.2 million is proposed over the first five years starting off with NAD 9.2 million in the first year and increasing from the second year to the fifth year. EIF has the capacity to be the administrator of such a subsidy scheme where all participating financial institutions could log their claim for a subsidy after a particular loan is approved.



The impact of proposed de-bushing activities

Bush Bank

To ensure security of supply, an organised group scheme is required. The Divisions of Forestry and Resettlement are well positioned to pioneer the establishment of a bush bank in collaboration with N-BiG, a non-profit association of primary harvesters. Such a bush bank will ensure a sustainable supply of biomass that can be used as an input into various supply chains (bush chips, manufacturers, charcoal etc.).

Research and Development Priorities

Priorities for research and development should be established and a supportive framework put in place. Namibia's National Commission for Research, Science and Technology could establish an R & D program in collaboration with Line Ministries and other partners.

Honorary Foresters

As provided for by the Forestry Act 12 of 2001, the Minister can appoint non civil servants as honorary foresters to support the monitoring capacities of the forestry division and to streamline the issuance of harvesting licenses. Honorary foresters should be established throughout the regions that are highly encroached to improve monitoring and compliance with standards. Additional training capacity needs to compliment the new licensing periods.

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Large-scale commercialisation of encroacher bush is relatively new in Namibia. Growth of this industry would achieve a whole range of public gains such as development of small and medium enterprises especially in rural areas, forex earnings, import substitution, capacity building in research and development as well as rangeland improvement.

This brochure looks at institutional and systematic bottlenecks and makes recommendations on how to effectively address them. It identifies opportunities to improve existing incentives and financing products, proposes new instruments and concludes that a public sector driven national strategy is imperative.